MATHEMATICS

GENERALIZED MODULUS METHODS FOR APPROXIMATING CONTINUOUS PERIODIC FUNCTIONS

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Two methods for approximating continuous periodic functions will be discussed. One method is a novel algorithm derived for this purpose, and the other is a modified Lagrange interpolating polynomial. Both return modulus-polynomials with the independent variable acting modulo a constant. The modulus-polynomials are periodic and appear to be continuous and approximate the desired function. They yield reasonable approximations to sine and cosine with only a few (e.g., cubic) terms. Comparison to Taylor series expansion will also be discussed, citing global vs. local approximation.